## Reaction Products Worksheet

For each of the following reactions, determine what the products of each reaction will be. When you have predicted the products, balance the equation and use a table of solubility products to determine which of the products (if any) will precipitate. Assume all reactions take place in water.

1) $\qquad$ $\mathrm{Ca}(\mathrm{OH})_{2}+$ $\qquad$ HF $\rightarrow$
2) $\qquad$ $\mathrm{Pb}\left(\mathrm{NO}_{3}\right)_{2}+$ $\qquad$ $\mathrm{K}_{2} \mathrm{CrO}_{4} \rightarrow$
3) $\qquad$ $\mathrm{NaC}_{2} \mathrm{H}_{3} \mathrm{O}_{2}+$ $\qquad$ $\mathrm{H}_{2} \mathrm{SO}_{4} \rightarrow$
4) $\qquad$ $\mathrm{Cu}(\mathrm{OH})_{2}+$ $\qquad$ $\mathrm{H}_{3} \mathrm{PO}_{4} \rightarrow$
5) $\qquad$ $\mathrm{AgNO}_{3}+$ $\qquad$ $\mathrm{Na}_{2} \mathrm{CO}_{3} \rightarrow$
6) $\qquad$ Zn + $\qquad$ $\mathrm{H}_{2} \mathrm{CO}_{3} \rightarrow$
7) $\qquad$ $\mathrm{Pb}(\mathrm{OH})_{2}+$ $\qquad$ $\mathrm{Hg}_{2} \mathrm{~S} \rightarrow$

## Reaction Products Worksheet - Key

For each of the following reactions, determine what the products of each reaction will be. When you have predicted the products, balance the equation and use a table of solubility products to determine which of the products (if any) will precipitate. Assume all reactions take place in water.

1) $1 \mathrm{Ca}(\mathrm{OH})_{2}+\underline{2} \mathrm{HF} \rightarrow 2 \mathrm{H}_{2} \mathrm{O}+\mathrm{CaF}_{2}\left(\mathrm{CaF}_{2}\right.$ precipitates)
2) $\quad 1 \mathrm{~Pb}\left(\mathrm{NO}_{3}\right)_{2}+1 \mathrm{~K}_{2} \mathrm{CrO}_{4} \rightarrow 2 \mathrm{KNO}_{3}+\mathrm{PbCrO}_{4}\left(\mathrm{PbCrO}_{4}\right.$ precipitates)
3) $\underline{2} \mathrm{NaC}_{2} \mathrm{H}_{3} \mathrm{O}_{2}+\underline{1} \mathrm{H}_{2} \mathrm{SO}_{4} \rightarrow \mathrm{Na}_{2} \mathrm{SO}_{4}+2 \mathrm{CH}_{3} \mathrm{COOH}$ (no precipitate)
4) $\quad \underline{3} \mathrm{Cu}(\mathrm{OH})_{2}+\underline{2} \mathrm{H}_{3} \mathrm{PO}_{4} \rightarrow 6 \mathrm{H}_{2} \mathrm{O}+\mathrm{Cu}_{3}\left(\mathrm{PO}_{4}\right)_{2}$
copper (II) phosphate precipitates
5) $\underline{2} \mathrm{AgNO}_{3}+\underline{1} \mathrm{Na}_{2} \mathrm{CO}_{3} \rightarrow \mathrm{Ag}_{2} \mathrm{CO}_{3}+2 \mathrm{NaNO}_{3}\left(\mathrm{Ag}_{2} \mathrm{CO}_{3}\right.$ precipitates)
6) $\quad \underline{1} \mathrm{Zn}+\underline{2} \mathrm{H}_{2} \mathrm{CO}_{3} \rightarrow \mathrm{ZnCO}_{3}+\mathrm{H}_{2} \quad\left(\mathrm{ZnCO}_{3}\right.$ precipitates)
7) $\mathrm{Pb}(\mathrm{OH})_{2}+\mathrm{Hg}_{2} \mathrm{~S} \rightarrow$ no reaction; neither reagent is soluble in water
